

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Appl. No.	:	10/749,524	Confirmation No.	8682
Appellants	:	Charles Cameron Brackett		
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Examiner	:	Robert M. Timblin		
Title	:	SYSTEM AND METHOD FOR MANAGING LARGE DATA SETS		
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APPELLANTS' APPEAL BRIEF

This is an appeal from an Office Action dated October 2, 2007, rejecting claims 1-29. These claims have been at least twice rejected. Appellants, having filed a Notice of Appeal (filed December 4, 2007) within the time period provided under § 1.134 accompanied by the fee set forth in 37 C.F.R. § 41.20(b)(1), do hereby submit this Appeal Brief prior to the two-month deadline of February 4, 2007 along with the fee set forth in §41.20(b)(2). The Commissioner is hereby authorized to charge any additional fee that may be due, or credit any overpayment, to Deposit Account No. 19-2112.

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I. REAL PARTY IN INTEREST

The real party in interest is CERNER INNOVATION, INC., a corporation of the State of Delaware, United States of America.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF CLAIMS

Claims 1-29 are pending and rejected, and the rejection of each of claims 1-29 is being appealed.

IV. STATUS OF AMENDMENTS

No amendments have been filed subsequent to the Office Action dated 10/2/2007.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The instant Application includes five independent claims: 1, 8, 15, 22, and 28. The present invention is defined by the claims, but summarily, embodiments of the invention are generally directed to managing large studies (e.g., groups of medical images) by distributing studies from a central server to reviewing stations in a manner that provides for immediate access to a subset of the studies without creating excessive network traffic and consuming excessive memory resources. *See, e.g., Specification*, p. 21, lines 1-9 (Abstract); p. 1, lines 8-11 (¶ [0003]); p. 2, line 3 – p. 3, line 2 (¶¶ [0006]-[0009]); p. 5, lines 2-7 (¶ [0021]); p. 14, lines 1-5 (¶ [0046]).¹ Studies may be sorted into working sets and a subset of studies in a working set may be distributed to review stations. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 3, lines 4-9 (¶ [0010]); p. 9, lines 5-11 (¶ [0033]); p. 9, line 12 – p. 10, line 3 (¶ [0034]); p. 11, lines 1-11 (¶ [0038]). Accordingly, some studies in the working set are readily available for review at a review station. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 5, line 7 – p. 6, line 4 (¶¶ [0022]-[0024]). Additionally, because only a subset of the studies are initially transferred (as opposed to

¹ Please note that all references to the Specification refer to the Specification of the present application as filed on January 2, 2004.

all studies), excessive network traffic is avoided and excessive memory resources are not consumed. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 2, line 8 – p. 3, line 2 (¶¶ [0007]-[0009]); p. 5, lines 2-7 (¶ [0021]); p. 14, lines 1-5 (¶ [0046]). When a user (e.g., a physician) begins reviewing studies in the working set at a review station, the system recognizes that the studies are being reviewed and begins distributing other studies in the working set to the reviewing station. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 3, lines 7-10 (¶ [0022]); p. 5, line 21 – p. 6, line 4 (¶ [0024]); p. 12, lines 13-22 (¶ [0042]).

Claim 1 (first of five independent claims)

Claim 1 is directed to a computerized method for managing large studies transferred from at least one acquisition device to a study process server in order to transfer the studies to at least one review station. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 1, lines 8-11 (¶ [0003]); p. 3, lines 4-9 (¶ [0010]); p. 5, lines 2-7 (¶ [0021]); FIG. 1, FIG. 5. Without having previously distributed the studies to a review station, each received study is sorted into at least one appropriate working set, and at least one subset of the received studies is selected from at least one working set. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 3, lines 4-9 (¶ [0010]); p. 11, lines 1-11 (¶ [0038]); FIG. 5. The at least one selected subset of studies is automatically distributed to at least one review station such that the at least one selected subset of studies is available on demand for review by a physician. *Id.*

Claim 8 (second of five independent claims)

Claim 8 is directed to a system for managing large studies transferred from at least one acquisition device to a study process server in order to transfer the studies to at least one review station. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 1, lines 8-11 (¶ [0003]); p. 3, lines 17-23 (¶ [0012]); p. 5, lines 2-7 (¶ [0021]); p. 9, lines 5-11 (¶ [0033]); FIG. 1; FIG. 3. The system comprises one or more computer-readable media having a plurality of modules embodied thereon that include a study sorting module, a study control module, and a study distribution

module. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 3, lines 17-23 (§ [0012]); p. 7, line 13 – p. 8, lines 2 (§ [0029]); p. 9, lines 5-11 (§ [0033]); FIG. 3. The study sorting module sorts each study received by the study process server into at least one appropriate working set. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 3, lines 17-23 (§ [0012]); p. 9, lines 5-11 (§ [0033]); p. 11, lines 1-11, (§ [0038]); FIG. 3. The study control module automatically selects at least one subset of studies from at least one working set without user input. *Id.* The study distribution module automatically distributes the selected at least one subset of studies to at least one selected review station such that the at least one selected subset of studies is available on demand for review by a physician. *Id.*

Claim 15 (third of five independent claims)

Claim 15 is directed to a computerized method for managing studies transferred from at least one acquisition device to a study process server in order to transfer the studies to at least one review station. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 1, lines 8-11 (§ [0003]); p. 3, lines 10-16 (§ [0011]); p. 5, lines 2-7 (§ [0021]); FIG. 1, FIG. 5, FIG. 6. In accordance with the method of claim 15, a selected subset of the existing studies is automatically transferred from the study process server to at least one review station such that the selected subset of the existing studies is available for review upon login. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 3, lines 10-16 (§ [0011]); p. 5, lines 7-10 (§ [0022]); p. 11, lines 1-11, (§ [0038]); FIG. 5. The at least one review station is monitored for a login. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 3, lines 10-16 (§ [0011]); p. 12, lines 13-22 (§ [0042]); FIG. 6. Upon detecting the login, the at least one review station is populated with additional studies from at least one relevant working set. *Id.*

Claim 22 (fourth of five independent claims)

Claim 22 is directed to a system for managing studies transferred from at least one acquisition device to a study process server in order to transfer the studies to at least one review station. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 1, lines 8-11 (§ [0003]); p. 4, lines 1-8 (§ [0004]); FIG. 2. The system includes a study process server and at least one review station. The study process server is configured to receive studies from at least one acquisition device and to transfer the studies to at least one review station. The review station is configured to receive studies from the study process server and to display the studies to a user. *Id.*

[0013]); p. 5, lines 2-7 (¶ [0021]); p. 9, lines 5-11 (¶ [0033]); FIG. 1; FIG. 3. The system includes one or more computer-readable media having a plurality of modules embodied thereon, including a study distribution module and a study control module. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 4, lines 1-8 (¶ [0013]); p. 7, line 13 – p. 8, lines 2 (¶ [0029]); p. 9, lines 5-11 (¶ [0033]); FIG. 3. The study distribution module automatically transfers a selected subset of the studies from the study process server to at least one review station such that the selected subset of the existing studies is available for review upon login. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 4, lines 1-8 (¶ [0013]); p. 9, lines 5-11 (¶ [0033]); p. 11, lines 1-11, (¶ [0038]); FIG. 3. The study control module monitors the at least one review station for a login, wherein the study distribution module populates the at least one review station with additional studies from at least one relevant working set upon detection of the login by the study control module. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 4, lines 1-8 (¶ [0013]); p. 9, lines 5-11 (¶ [0033]); p. 12, lines 13-22 (¶ [0042]); FIG. 3.

Claim 28 (fifth of five independent claims)

Claim 28 is directed to one or more computer-readable media embodying computer-useable instructions for performing a computerized method for managing the transfer of studies to a plurality of review stations, wherein the studies are grouped into a plurality of working sets. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 1, lines 8-11 (¶ [0003]); p. 3, lines 10-16 (¶ [0011]); p. 5, lines 2-7 (¶ [0021]); p. 7, line 13 – p. 8, lines 2 (¶ [0029]); FIG. 1; FIG. 5; FIG. 6. The method includes automatically selecting at least one subset of studies from at least one working set. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 3, lines 4-9 (¶ [0010]); p. 11, lines 1-11, (¶ [0038]); FIG. 5. The method also includes automatically distributing at least one subset of studies to each of the plurality of review stations such that at least one subset of studies is available on demand for review by a user at each of the plurality of review stations. *See, e.g., id.*, p. 21, lines 1-9

(Abstract); p. 3, lines 10-16 (§ [0011]); p. 3, lines 7-10 (§ [0022]); p. 11, lines 1-11, (§ [0038]); FIG. 5. The method further includes monitoring the plurality of review stations for one or more selected user activities. *See, e.g., id.*, p. 21, lines 1-9 (Abstract); p. 3, lines 10-16 (§ [0011]); p. 12, lines 13-22 (§ [0042]); FIG. 6. The method still further includes upon detecting at least one of the one or more selected user activities at a review station selected by a user, transferring additional studies to the selected review station. *Id.*

VI. GROUNDS OF REJECTIONS TO BE REVIEWED ON APPEAL

A) Claims 1-6, 8-13, and 28-29 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,891,920 to Minyard et al. (“Minyard”).

B) Claims 7 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Minyard in view of U.S. Patent Application Publication No. 2005/0050552 by Fuller (“Fuller”).

C) Claims 15-20 and 22-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Minyard in view of U.S. Patent Application Publication No. 2002/0016718 by Rothschild et al. et al. (“Rothschild”).

D) Claim 21 stands rejected under 35 U.S.C. § 103 (a) as being unpatentable over Minyard and Rothschild in view of Fuller.

Appellants respectfully traverse the rejection of these claims.

VII. ARGUMENT

A) The rejection of claims 1-6, 8-13, and 28-29 under 35 U.S.C. § 102(e) as being anticipated by Minyard should be reversed because claims 1-6, 8-13, and 28-29 are not anticipated by Minyard as Minyard fails to describe, either expressly or inherently, each and every element of the claims.

Initially, Appellants note that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdeggal Brothers v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is

contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 2 USPQ 2d 1913, 1920 (Fed. Cir. 1989) (emphasis added). *See also*, MPEP § 2131.

Appellants respectfully submit that claims 1-6, 8-13, and 28-29 are not anticipated by Minyard. In particular, Minyard fails to describe, either expressly or inherently, each and every element of these claims as outlined below. As such, the claim rejections are improper and should be withdrawn.

1) Claims 1-6

As noted above, independent claim 1 is directed to a computerized method for managing large studies transferred from at least one acquisition device to a study process server in order to transfer the studies to at least one review station. *See, e.g., id.*, Abstract, ¶¶ [0003], [0010], [0021], FIG. 1, FIG. 5. Without having previously distributed the studies to a review station, each received study is sorted into at least one appropriate working set, and at least one subset of the received studies is selected from at least one working set. *See, e.g., id.*, Abstract, ¶¶ [0010], [0038], FIG. 5. The at least one selected subset of studies is automatically distributed to at least one review station such that the at least one selected subset of studies is available on demand for review by a physician. *Id.*

The cited art, Minyard, is inapplicable to the invention of claim 1. In contrast to the invention of claim 1, Minyard discusses a mammographic imaging system and tools for processing mammographic images. *See, e.g., Minyard*, Abstract. To improve workflow management and identification of images, images may be processed by background processing that includes preprocessing and/or interim processing. *See id.*, Abstract, col., 3, lines 15-27. Processing may include, for example, ordering the sequence of images for a review session, annotating images, and optimizing image information for a particular display. *See id.*, col. 3, line 16 through col. 4, line 57.

However, Minyard is not concerned with distributing studies from a server to reviewing stations in a manner that provides for immediate access to a subset of the studies without creating excessive network traffic and consuming excessive memory resources as in the invention of claim 1. As a result, Minyard fails to describe, either expressly or inherently, each and every limitation of independent claim 1. First, Minyard fails to describe “without having previously distributed the studies to a review station, sorting each received study into at least one appropriate working set and selecting at least one subset of the received studies from at least one working set.” Minyard discusses background processing that may be performed for images. *See, e.g., id.*, Abstract, col. 3, line 15 – col. 4, line 57. However, none of the background processing described in Minyard relates to selecting a subset of studies from a working set prior to distributing the studies to a review station.

The Office Action dated 10/2/2007 indicates that the feature of selecting a subset of images is discussed in Minyard as preprocessing that includes determining an anticipated sequence for review images. *See, e.g., Office Action dated 10/2/2007*, p.3, 15 and 16. In particular, Minyard discusses preparing images for more rapid display during a review session by determining an anticipated sequence for displaying images when a physician reviews the images during an image review session. *See, e.g., Minyard*, col. 3, lines 50-55. However, determining a sequence for an image review session as in Minyard is not selecting a subset of studies from a working set as in claim 1. A sequence, which suggests an ordering of images, is not a subset from a working set, and there is nothing in Minyard to suggest that the images in the anticipated sequence are a subset of images from a working set. For instance, in accordance with the method of claim 1, ten images may be grouped together in a working set, and five of those images may be selected as a subset to “prime” image review stations without transferring all of the images within the working set. In contrast, determining an anticipated sequence of images in

Minyard would appear to include reordering the ten images to assist the physician in reviewing those ten images. However, there is nothing in Minyard to suggest that only a subset of the images would be selected for initial transfer to a review station. Instead, all ten images in the anticipated sequence would be transferred.

Additionally, Minyard fails to describe “automatically distributing the at least one selected subset of studies to at least one review station such that the at least one selected subset of studies is available on demand for review by a physician” as recited in amended claim 1. In the invention of claim 1, a subset of studies is selected and then automatically distributed to at least one review station such that the subset of studies is available on demand by a physician without requiring the physician to wait while the studies are transferred to the review station. As discussed in the Specification, this allows review stations to be primed with a subset of studies available for review upon demand without creating excessive network traffic and consuming excessive memory resources that would be required to transfer all studies to review stations. Minyard is not concerned with distributing studies from a server to review stations in a manner that provides for immediate access to a subset of the studies without creating excessive network traffic and consuming excessive memory resources.

In Minyard, images may be transferred to a review station for review by a physician, but there is no indication that only a subset of images from a working set are initially transferred. The Office Action dated 10/2/2007 attempts to find this feature in Minyard’s discussion of determining a sequence of images for an image review session and transferring that sequence to an image review station. *See, e.g., Office Action dated 10/2/2007*, p. 3, 15, and 16. However, as noted above, a sequence of images as in Minyard merely reflects an order of images and does not comprise a subset of a working set of studies as in claim 1. At best, Minyard appears to describe determining a sequence for a group of images and then transferring all of those images to an

image review station as opposed to only a subset of those images. This mode of operation is completely different from selecting a subset of studies without having previously distributed the studies to a review station and then automatically transferring the subset to a review station such that the studies are available upon demand for review by a physician as in claim 1. As noted previously, by only transferring a subset of images to an image review station as in claim 1, some studies from a working set are available for physician review at the review station without consuming excessive network resources and memory resources required to transfer and store all studies from the working set.

Accordingly, Minyard fails to describe each and every element of claim 1. Claims 2-6 depend, directly or indirectly, from independent claim 1, and, as such, the arguments set forth above with respect to independent claim 1 are equally applicable to these dependent claims. For at least the reasons stated above, Appellants respectfully request that the Examiner's rejection of claims 1-6 be reversed and the claims allowed.

2) Claims 8-13

Referring now to claims 8-13, as noted above, independent claim 8 is directed to a system for managing large studies transferred from at least one acquisition device to a study process server in order to transfer the studies to at least one review station. *See, e.g., id.*, Abstract, ¶¶ [0003], [0012], [0021], [0033], FIG. 1, FIG. 3. The system comprises one or more computer-readable media having a plurality of modules embodied thereon that include a study sorting module, a study control module, and a study distribution module. *See, e.g., id.*, Abstract, ¶¶ [0012], [0029], [0033], FIG. 3. The study sorting module sorts each study received by the study process server into at least one appropriate working set. *See, e.g., id.*, Abstract, ¶¶ [0012], [0033], [0038], FIG. 3. The study control module automatically selects at least one subset of studies from at least one working set without user input. *Id.* The study distribution module

automatically distributes the selected at least one subset of studies to at least one selected review station such that the at least one selected subset of studies is available on demand for review by a physician. *Id.*

Minyard fails to describe, either expressly or inherently, each and every element of independent claim 8. First, Minyard fails to describe “a study control module for automatically selecting at least one subset of studies from at least one working set without user input.” As noted above with respect to independent claim 1, Minyard fails to describe automatically selecting a subset of studies from a working set. Instead, Minyard discusses determining an anticipated sequence for an image review session. *See, e.g., Minyard*, col. 3, lines 53-64. Determining a sequence (or order) for a set of images as in Minyard does not comprise a study control module that automatically selects a subset of studies from a working set without user input as recited in claim 8.

Minyard additionally fails to describe “a study distribution module for automatically distributing the selected at least one subset of studies to at least one selected review station such that the at least one selected subset of studies is available on demand for review by a physician” – as recited in claim 8. Minyard simply fails to discuss a system in which a review station is primed with a subset of studies such that the subset of studies are available to a physician on demand without creating excessive network traffic and using excessive memory resources that would be required to transfer all studies from a working set. Instead, Minyard discusses transferring images to be reviewed in an anticipated sequence. *See, e.g., id.*, col. 3, line 65 – col. 4, line 6. However, as noted above, transferring images for review in a particular sequence is not transferring a subset of studies from a working set as in claim 8.

Accordingly, Minyard fails to describe each and every element of claim 8. Claims 9-13 depend, directly or indirectly, from independent claim 8, and, as such, the arguments set forth

above with respect to independent claim 8 are equally applicable to these dependent claims. For at least the reasons stated above, Appellants respectfully request that the Examiner's rejection of claims 8-13 be reversed and the claims allowed.

3) *Claims 28-29*

Turning now to claims 28 and 29, independent claim 28 is directed to one or more computer-readable media embodying computer-useable instructions for performing a computerized method for managing the transfer of studies to a plurality of review stations, wherein the studies are grouped into a plurality of working sets. *See, e.g., id.*, Abstract, ¶¶ [0003], [0011], [0021], [0029], FIG. 1, FIG. 5, FIG. 6. The method includes automatically selecting at least one subset of studies from at least one working set. *See, e.g., id.*, Abstract, ¶¶ [0010], [0038], FIG. 5. The method also includes automatically distributing at least one subset of studies to each of the plurality of review stations such that at least one subset of studies is available on demand for review by a user at each of the plurality of review stations. *See, e.g., id.*, Abstract, ¶¶ [0011], [0022], [0038], FIG. 5. The method further includes monitoring the plurality of review stations for one or more selected user activities. *See, e.g., id.*, Abstract, ¶¶ [0011], [0042], FIG. 6. The method still further includes upon detecting at least one of the one or more selected user activities at a review station selected by a user, transferring additional studies to the selected review station. *Id.*

Minyard fails to describe, either expressly or inherently, each and every element of claim 28. Initially, Minyard fails to describe “automatically selecting at least one subset of studies from at least one working set” and “automatically distributing at least one subset of studies to each of the plurality of review stations such that at least one subset of studies is available on demand for review by a user at each of the plurality of review stations.” Minyard does not describe an approach in which a subset of studies are selected from a working set and then

distributed to each of a number of review stations such that the subset of studies is available at each review station for review by a user. As discussed previously with respect to independent claims 1 and 8, Minyard discusses determining an anticipated sequence for a group of images and transferring the images such that they may be reviewed in the anticipated sequence. *See, e.g., Minyard*, col. 3, line 50 – col. 4, line 6. However, Minyard does not discuss selecting a subset from a working set of studies and transferring that subset to each of a number of review stations.

Additionally, Minyard fails to describe “monitoring the plurality of review stations for one or more selected user activities” and “upon detecting at least one of the one or more selected user activities at a review station selected by a user, transferring additional studies to the selected review station” as recited in independent claim 28. Minyard is completely silent with respect to these features in conjunction with the previously recited elements of claim 28. In particular, Minyard does not describe after first priming review stations with a subset of studies from a working set, monitoring the review stations for a user activity (e.g., a physician logging into a review station and/or beginning to review studies) and transferring additional studies upon detecting a user activity. Instead, Minyard is concerned with background processing to provide improve workflow sequences and identification of images during image review. *See, e.g., Minyard*, Abstract.

The portions of Minyard cited in the Office Action dated 10/2/2007 are inapplicable to the recited elements in the context of claim 28. The Examiner is either (a) misinterpreting claim 28 and/or Minyard or (b) attempting to read the recited features into Minyard. For instance, the Office Action dated 10/2/2007 cites column 8, lines 25-30 of Minyard. *See Office Action dated 10/2/2007*, p. 7. This portion of Minyard discusses protocols for CAD processing to optimize image display, which is irrelevant to the recited features and claim 28. Additionally, the Office

Action cites column 14, lines 35-41 and column 14, line 65 through column 15, line 10. *See Office Action dated 10/2/2007*, p. 7. These portions of Minyard discuss a user creating workflows for image review sessions, which is also irrelevant to the recited features and claim 28.

Accordingly, Appellants respectfully submit that Minyard fails to describe, either expressly or inherently, each and every element of claim 28. Claim 29 depends from independent claim 28, and, as such, the arguments set forth above with respect to independent claim 28 are equally applicable to claim 29. As Minyard fails to describe each and every element of claims 28 and 29, Appellants respectfully request that the Examiner's rejection of claims 28 and 29 be reversed and the claims allowed.

B) The rejection of claims 7 and 14 under 35 U.S.C. § 103(a) as being obvious over Minyard in view of Fuller should be reversed because the Examiner has failed to establish a *prima facie* case of obviousness.

Claims 7 and 14 were rejected under 35 U.S.C. § 103(a) as being obvious over Minyard in view of Fuller. Initially, a *prima facie* case of obviousness has not been established for claims 7 and 14 because Minyard and Fuller, either alone or in combination, fail to teach or suggest all the claims limitations for claims 7 and 14. Dependent claims 7 and 14 depend from independent claims 1 and 8, which include limitations not taught or suggested by Minyard for at least the reasons as described hereinabove. The addition of Fuller does not cure these deficiencies as Fuller similarly fails to teach or suggest these limitations.

Additionally, Fuller fails to teach or suggest the limitations for which it was cited, namely the additional features recited in claims 7 and 14. In particular, Fuller is directed to delivering data from a device driver to an application within a computer in a way that optimizes processing, which is wholly inapplicable to managing large studies between a central server and review stations (e.g., in a hospital). This disclosure in Fuller fails to teach or suggest the limitations of

claims 7 and 14. Fuller does not discuss monitoring a review station for a low buffer threshold and re-populating any review station reaching the low buffer threshold with at least one additional subset of studies. Instead, Fuller is concerned with delivering data from an application to a device driver, which clearly does not meet the limitations recited in claims 7 and 14. As such, the rejection of claims 7 and 14 at least fails to meet the *Graham* factors of determining the scope and contents of the prior art, and ascertaining the differences between the prior art and the claims at issue. Clearly, there are significant differences between the prior art and the claims at issues as delivering data to a device driver as described in Fuller is significantly different from monitoring review stations and re-populating a review station with a subset of studies when a low buffer threshold is determined.

Further, there is no apparent reason to combine Minyard and Fuller in the manner set forth in the Office Action dated 10/2/2007, nor is there any apparent reason to modify Minyard and/or Fuller to achieve the invention of claims 7 and 14. Recently, the Supreme Court elaborated on the obviousness standard, stating “it will be necessary for [the Office] to look at interrelated teachings of multiple [prior art references]; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by [one of] ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the [patent application].” *KSR v. Teleflex*, 127 S. Ct. 1727 (2007).

The Office Action has not presented any apparent reason why someone of ordinary skill in the art would have combined Minyard and Fuller. The sole rationale provided in the Office Action to combine Minyard and Fuller is that “[i]t would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because Fuller’s system would have provided Minyard’s invention with [sic]

enhancing the likelihood that the requested data are available for immediate delivery.” *Office Action dated 10/2/2007*, p. 9. The Office Action cannot rely on the benefit of the combination without first supporting the motivation to make the combination or providing any apparent reason to combine the references. Such motivation does not appear anywhere in either of the references, and the Office Action has not presented any actual evidence in support of the same. Instead, the Office Action relies on broad conclusory statements. Such a basis does not adequately support the combination of references. Neither Minyard nor Fuller discloses or suggests a motivation to combine with the other to achieve the claimed invention. In fact, as explained in further detail below, Minyard and Fuller are concerned with completely different technologies. As such, someone of ordinary skill in the art would not think to combine them. There is no apparent reason why one of ordinary skill in the art would have combined the Minyard and Fuller references or otherwise modified the references to achieve the inventions of claims 7 and 14. Instead, the rejection appears to be based on hindsight. Thus, the references are not properly combined.

Additionally, Appellants submit that the combination of the Minyard and Fuller references in the Office Action is based on a mischaracterization of the Fuller reference. In particular, Appellants traverse the statement that “Fuller is directly concerned with processing and delivering data in a network environment.” *Office Action dated 10/2/2007*, p. 18. The Fuller reference simply is not concerned with processing and delivering data in a network environment such as that in claims 7 and 14. Instead, Fuller is directed to “improving the throughput of data from a device driver 70 to an application 72.” *Fuller*, ¶ [0017]. Although Fuller indicates that the device driver may receive the data from any source, including a network (*see, e.g., Fuller*, ¶ [0017]), Fuller’s discussion of a network as a source of data is irrelevant to the thread scheduling concept of Fuller to increase data throughput from the device driver to the application.

Appellants also traverse the Office Action's conclusion that the Fuller reference is analogous art. As indicated above, Fuller is directed to delivering data from a device driver to an application within a computer in a way that optimizes processing. Clearly, Fuller is not in the field of Appellants' endeavor. Moreover, Appellants were concerned with distributing studies from a central server to review stations in a manner that prevents creating excessive network traffic and consuming excessive memory resources, not with optimizing the performance of an application operating on a computer. Since Fuller is neither in the field of Appellants' endeavor nor reasonably pertinent to the particular problem with which Appellants were concerned, it cannot be relied on as a basis for rejecting claims 7 and 14.

Nonetheless, as indicated above, even if the references were combined, the combination of Minyard and Fuller fails to teach or suggest all limitations of claims 7 and 14. Nothing in either Minyard or Fuller teaches or suggests monitoring a review station for a low buffer threshold and re-populating a review station with additional studies upon detecting a low buffer threshold. Further, the Office Action fails to provide any rationale for modifying the Minyard and Fuller references to achieve the inventions of claims 7 and 14.

Accordingly, the 103(a) rejection of claims 7 and 14 is improper for at least the reasons stated above, and Appellants respectfully request that the Examiner's rejection of claims 7 and 14 be reversed and the claim allowed.

C) The rejection of claims 15-20 and 22-27 under 35 U.S.C. § 103(a) as being obvious over Minyard in view of Rothschild should be reversed because the Examiner has failed to establish a *prima facie* case of obviousness.

1) Claims 15-20

Referring initially to claim 15-20, independent claim 15 is directed to a computerized method for managing studies transferred from at least one acquisition device to a study process server in order to transfer the studies to at least one review station. *See, e.g., id.*, Abstract, ¶¶ [0003], [0011], [0021], FIG. 1, FIG. 5, FIG. 6. In accordance with the method of claim 15, a

selected subset of the existing studies is automatically transferred from the study process server to at least one review station such that the selected subset of the existing studies is available for review upon login. *See, e.g., id.*, Abstract, ¶¶ [0011], [022], [0038], FIG. 5. The at least one review station is monitored for a login. *See, e.g., id.*, Abstract, ¶¶ [0011], [0042], FIG. 6. Upon detecting the login, the at least one review station is populated with additional studies from at least one relevant working set. *Id.*

Minyard and Rothschild, either alone or in combination, fail to teach or suggest all limitations of independent claim 15. In particular, the references fail to teach or suggest populating a review station (that has been pre-populated with a selected subset of studies) with additional studies from a working set upon detecting a login. As indicated above, Minyard discusses determining an anticipated sequence for an image review session and transferring images such that they may be reviewed in the anticipated sequence. *See, e.g., Minyard*, col. 3, line 50 – col. 4, line 6. However, Minyard simply fails to teach or suggest transferring a subset of studies to a review station and then monitoring and populating the review station with additional studies upon detecting a login. Additionally, Rothschild discusses a system that either pushes images to a remote location as the images are received or waits for a triggering event to push the images to the remote location and not a combination of both.

In contrast to Minyard and Rothschild, the invention of claim 15 is directed to first distributing a subset of studies to a review station (such that some studies are readily available at the review station upon a login) and then distributing additional studies upon detecting a login. Accordingly, when a physician logs into a review station, some studies are readily available for the physician's review while additional studies are transferred to the review station in the background. Nothing in Minyard and/or Rothschild teaches or suggests this approach. At best, a combination of Rothschild with Minyard would merely provide a system that pushes images to a

review station upon detecting a login. However, the invention of claim 15 advances the state of the art as it is directed to first priming a review station with a subset of studies such that the subset is immediately available upon login and then transferring additional studies to the review station upon detecting a login.

Accordingly, Appellants respectfully submit that Minyard fails to describe, either expressly or inherently, each and every element of claim 15. Claims 16-20 depend from independent claim 15, and, as such, the arguments set forth above with respect to independent claim 15 are equally applicable to claims 16-20. As Minyard fails to describe each and every element of claims 15-20, Appellants respectfully request that the Examiner's rejection of claims 15-20 be reversed and the claims allowed.

2) Claims 22-27

Referring now to claims 22-27, as noted above, independent claim 22 is directed to a system for managing studies transferred from at least one acquisition device to a study process server in order to transfer the studies to at least one review station. *See, e.g., id.*, Abstract, ¶¶ [0003], [0013], [0021], [0033], FIG. 1, FIG. 3. The system includes one or more computer-readable media having a plurality of modules embodied thereon, including a study distribution module and a study control module. *See, e.g., id.*, Abstract, ¶¶ [0013], [0029], [0033], FIG. 3. The study distribution module automatically transfers a selected subset of the studies from the study process server to at least one review station such that the selected subset of the existing studies is available for review upon login. *See, e.g., id.*, Abstract, ¶¶ [0013], [0033], [0038], FIG. 3. The study control module monitors the at least one review station for a login, wherein the study distribution module populates the at least one review station with additional studies from at least one relevant working set upon detection of the login by the study control module. *See, e.g., id.*, Abstract, ¶¶ [0013], [0033], [0042], FIG. 3.

Minyard and Rothschild, either alone or in combination, fail to teach or suggest all limitations of independent claim 22. In particular, Minyard and Rothschild fail to teach or suggest a system that includes both a study distribution module and a study control module to first prime a review stations with a selected subset of studies and then populate the review station with additional studies from a working set upon detecting a login at the review station. As indicated above, Minyard discusses background processing that includes anticipating a sequence for an image review session and caching images in the anticipated sequence at a review station. *See, e.g., Minyard*, col. 3, line 50 – col. 4, line 6. However, Minyard does not teach or suggest a system that first primes a review station with a subset of studies from a working set and then populates that review station with additional studies upon detecting a login. Additionally, as noted above, Rothschild discusses a system that either pushes images to a remote location as the images are received or waits for a triggering event to push the images to the remote location and not a combination of both. Nothing in Minyard and/or Rothschild teaches or suggests a system as recited in claim 22. At best, a combination of Rothschild with Minyard would merely provide a system that pushes images to a review station upon detecting a login. However, the system of claim 22 advances the state of the art as it is directed to first priming a review station with a subset of studies such that the subset is immediately available upon login and then transferring additional studies to the review station upon detecting a login.

Accordingly, Minyard fails to describe each and every element of claim 22. Claims 23-27 depend, directly or indirectly, from independent claim 22, and, as such, the arguments set forth above with respect to independent claim 8 are equally applicable to these dependent claims. For at least the reasons stated above, Appellants respectfully request that the Examiner's rejection of claims 22-23 be reversed and the claims allowed.

D) The rejection of claim 21 under 35 U.S.C. § 103(a) as being obvious over Minyard in view of Rothschild and further in view of Fuller should be reversed because the Examiner has failed to establish a *prima facie* case of obviousness.

Claim 21 was rejected under 35 U.S.C. § 103(a) as being obvious over Minyard in view of Rothschild and further in view of Fuller. A *prima facie* case of obviousness has not been established for claim 21 because Minyard, Rothschild, and Fuller, either alone or in combination, fail to teach or suggest all the claims limitations for claim 21. Dependent claim 21 depends from independent claim 15, which includes limitations not taught or suggested by Minyard and Rothschild as described hereinabove. The addition of Fuller does not cure these deficiencies as Fuller similarly fails to teach or suggest these limitations. Further, there is no suggestion or motivation to combine the Minyard, Rothschild, and Fuller references in the manner set forth in the Office Action dated 10/2/2007, nor is there any suggestion or motivation to modify Minyard, Rothschild, and/or Fuller to achieve the invention of claim 21. Accordingly, the 103(a) rejection of claim 21 is improper for at least the reasons stated above, and Appellants respectfully request that the Examiner's rejection of claim 21 be reversed and the claim allowed.

E) Conclusion

Because Minyard, Fuller, and/or Rothschild do not anticipate or render obvious claims 1-29 for at least the reasons cited hereinabove, Appellants respectfully request that the rejection of the claims be reversed and the claims allowed.

Respectfully submitted,

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CLAIMS APPENDIX

1. A computerized method for managing large studies transferred from at least one acquisition device to a study process server in order to transfer the studies to at least one review station, the computerized method comprising:

without having previously distributed the studies to a review station, sorting each received study into at least one appropriate working set and selecting at least one subset of the received studies from at least one working set; and

automatically distributing the at least one selected subset of studies to at least one review station such that the at least one selected subset of studies is available on demand for review by a physician.

2. The method of claim 1, further comprising distributing the selected subset of studies to each review station.

3. The method of claim 1, further comprising implementing a predictive algorithm to identify a set of review stations and distributing the selected at least one subset of studies to the identified review stations.

4. The method of claim 1, further comprising continuously monitoring a review station to determine if a distributed study has been completed and removing the study from an associated working set after the study has been completed.

5. The method of claim 4, further comprising deleting the completed study from some or all review stations in response to determining that the study has been completed.

6. The method of claim 1, further comprising after distributing the at least one selected subset of studies to at least one review station, monitoring each review station for selected user activities and populating at least one monitored review station with additional studies from one or more relevant working sets upon detecting one of the selected user activities.

7. The method of claim 1, further comprising monitoring each review station for a low buffer threshold and re-populating any review station reaching the low buffer threshold with at least one additional subset of studies.

8. A system for managing large studies transferred from at least one acquisition device to a study process server in order to transfer the studies to at least one review station, the system comprising one or more computer-readable media having a plurality of modules embodied thereon, the plurality of modules comprising:

a study sorting module for sorting each study received by the study process server into at least one appropriate working set;

a study control module for automatically selecting at least one subset of studies from at least one working set without user input; and

a study distribution module for automatically distributing the selected at least one subset of studies to at least one selected review station such that the at least one selected subset of studies is available on demand for review by a physician.

9. The system of claim 8, wherein the study distribution module distributes the selected subset of studies to each review station.

10. The system of claim 8, further comprising a predictive algorithm for identifying a set of review stations and distributing the selected at least one subset of studies to the identified review stations.

11. The system of claim 8, wherein the study control module continuously monitors a review station to determine if a distributed study has been completed and removing the study from an associated working set after the study has been completed.

12. The system of claim 11, wherein the study control module includes controls for deleting the completed study from some or all review stations in response to determining that the study has been completed.

13. The system of claim 8, wherein the study control module includes controls for monitoring each review station for selected user activities after the study distribution module has distributed the selected at least one subset of studies to at least one selected review station; and wherein the study distribution module populates at least one monitored review station with additional studies from at least one relevant working sets upon detecting the selected user activities.

14. The system of claim 8, wherein the study control module includes controls for monitoring each review station for a low buffer threshold and causing the study distribution module to re-populate any review station reaching the low buffer threshold with at least one additional subset of studies.

15. A computerized method for managing studies transferred from at least one acquisition device to a study process server in order to transfer the studies to at least one review station, the computerized method comprising:

automatically transferring a selected subset of the existing studies from the study process server to at least one review station such that the selected subset of the existing studies is available for review upon login;

monitoring the at least one review station for a login; and

populating the at least one review station with additional studies from at least one relevant working set upon detecting the login.

16. The method of claim 15, further comprising selecting all review stations and distributing the selected subset of studies to all review stations.

17. The method of claim 15, further comprising implementing a predictive algorithm to identify a set of review stations and distributing the selected subset of studies to the identified review stations.

18. The method of claim 15, further comprising continuously monitoring the populated review stations to determine if a distributed study has been completed.

19. The method of claim 18, further comprising deleting the study from the populated review stations after the study has been completed.

20. The method of claim 15, further comprising monitoring each review station for a login and populating each monitored review station with studies from a relevant working set upon detecting the login.

21. The method of claim 15, further comprising monitoring each review station for a low buffer threshold and re-populating any review station reaching the low buffer threshold.

22. A system for managing studies transferred from at least one acquisition device to a study process server in order to transfer the studies to at least one review station, the system comprising one or more computer-readable media having a plurality of modules embodied thereon, the modules comprising:

a study distribution module for automatically transferring a selected subset of the studies from the study process server to at least one review station such that the selected subset of the existing studies is available for review upon login; and

a study control module for monitoring the at least one review station for a login, wherein the study distribution module populates the at least one review station with additional studies from at least one relevant working set upon detection of the login by the study control module.

23. The system of claim 22, wherein the study control module further comprises controls for selecting all review stations and the study distribution module distributes the selected subset of studies to all review stations.

24. The system of claim 22, further comprising a predictive algorithm for identifying a set of review stations, such that the study distribution model distributes the selected subset of studies to the identified review stations.

25. The system of claim 22, wherein the study control module further comprises controls for continuously monitoring the populated review stations to determine if a distributed study has been completed.

26. The system of claim 25, wherein the study control module further comprises controls for deleting the study from the populated review stations after the study has been completed.

27. The system of claim 22, wherein the study control module further comprises controls for monitoring each review station for a login and the study distribution module populates each monitored review station with studies from a relevant working set upon detecting the login.

28. One or more computer-readable media embodying computer-useable instructions for performing a computerized method for managing the transfer of studies to a plurality of review stations, wherein the studies are grouped into a plurality of working sets, the method comprising:

automatically selecting at least one subset of studies from at least one working set;

automatically distributing at least one subset of studies to each of the plurality of review stations such that at least one subset of studies is available on demand for review by a user at each of the plurality of review stations;

monitoring the plurality of review stations for one or more selected user activities; and

upon detecting at least one of the one or more selected user activities at a review station selected by a user, transferring additional studies to the selected review station.

29. The one or more computer-readable media of claim 28, wherein automatically selecting at least one subset of studies from at least one working set comprises automatically selecting at least one subset of studies from each of the plurality of working sets to provide a plurality of subsets of studies, and wherein automatically distributing at least one subset of studies to each of the plurality of review stations comprises automatically distributing the plurality of subsets of studies to each of the plurality of review stations.

EVIDENCE APPENDIX

Pursuant to 37 C.F.R. § 41.37(c)(1)(ix), submitted herewith are copies of any evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other evidence entered by the Examiner and relied upon by Appellants in the appeal.

NONE

RELATED PROCEEDINGS APPENDIX

Pursuant to 37 C.F.R. § 41.37(c)(1)(x), submitted herewith are copies of decisions rendered by a court or the Board in any proceeding identified in Section II pursuant to 37 C.F.R. § 41.37(c)(1)(ii).

NONE